

underestimate the complexity of both treatment and outcomes for those with schizophrenia.

**PM118**

# **PERFORMING EPIDEMIOLOGICAL STUDIES IN SCHIZOPHRENIA: A PROPENSITY SCORE MODEL TO PREDICT SELECTION OF ATYPICAL ANTIPSYCHOTIC**

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**OBJECTIVE:** Medical records provide a potential wealth of information about treatment effects; however, differences in pretreatment patient or other characteristics may influence treatment assignment. This, in turn, could lead to biased estimates of treatment effects in nonrandomized studies. We developed a statistical model using propensity scores to reduce treatment selection bias in analyses based on retrospective data.

**METHODS:** As part of a study described elsewhere, we abstracted retrospective data from the medical records of 327 patients treated for schizophrenia or schizoaffective disorder with risperidone, olanzapine, or quetiapine at 3 acute inpatient mental health facilities. Data were collected on patients from the inpatient hospitalization through 60 days following initiation of study drug. Using a multinomial logistic regression analysis of pretreatment patient and other characteristics, we developed a predictive model of treatment assignment to risperidone, olanzapine, or quetiapine.

**RESULTS:** The following variables were significantly predictive of treatment assignment: age at admission, gender, race, smoker at admission, history of substance abuse, prior use of clozapine, and facility. The following variables were among those not significantly predictive of treatment assignment: prior use of atypical antipsychotics other than clozapine, body mass index at admission, age at first hospitalization for mental illness, and history of suicide attempts, violence, glucose abnormalities, or seizures.

**CONCLUSION:** The propensity score model offered a means to adjust for treatment selection bias in a nonrandomized study comparing treatment effects of risperidone, olanzapine, and quetiapine in an inpatient setting. In addition, the propensity score methodology can be used by researchers responsible for designing nonrandomized studies of healthcare interventions and decision-makers who are responsible for evaluating and interpreting the results in this disease area.

**PM119**

# **THE USE OF PHARMACY CLAIMS DATA TO EVALUATE QUALITY OF PHARMACOLOGIC CARE FOR ATTENTION-DEFICIT/HYPERACTIVITY DISORDER**

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**OBJECTIVES:** Although effective pharmacologic treatment for attention-deficit/hyperactivity disorder (ADHD) is widely available, little is known about the quality of such care. This is unfortunate, because the burden of inappropriate or inadequate treatment, in terms of increased risk for psychiatric comorbidity, chronic decrements in functioning, and higher medical costs, is borne by patients, families, employers and healthcare systems. We therefore sought to develop a methodology to evaluate quality of ADHD pharmacologic care.

**METHODS:** Among members continuously enrolled in a pharmacy benefits management plan during the year 2000, we used claims data to identify all psychostimulants filled for ADHD-related treatment during a 3-month index period (108,819 fills for 51,486 patients). We next calculated average daily dose by psychostimulant class (methylphenidate, amphetamine salts, dextroamphetamine, pemoline, and methamphetamine). Based upon previous research, we then created a metric to convert average daily dose across psychostimulant classes into "Methylphenidate Equivalent Units" (MEU).

**RESULTS:** Average daily MEU dose was 27.3 mg. Patients averaged 2.1 fills per 3-month period, at an average of 25.5 days supplied per fill. Thus, patients typically received medication coverage throughout 51 of the 91-day index period (56%). This is the equivalent of receiving medication coverage for 3.9 days per week. If medication was, in fact, taken every day, average daily MEU dose would be nearly halved (15.3 mg).

**CONCLUSIONS:** We describe a methodology for evaluating quality of ADHD pharmacologic care. Whether findings suggest under-treatment requires future research linking average daily MEU dose to targeted outcomes of care. Guidelines recently published by the American Academy of Pediatrics note that ADHD treatment requires continuous monitoring "to maximize function across multiple domains." By incorporating our methodology into large-scale prescription feedback and monitoring systems, the burden of inappropriate or inadequate ADHD treatment that is borne by patients, families, employers, and healthcare systems may be ultimately mitigated.

**PM120**

# **TRENDS IN PEDIATRIC HEALTH ECONOMIC EVALUATION: 1980 TO 1999**

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